

**COMMITTEE ON SCIENCE & TECHNOLOGY  
SUBCOMMITTEE ON INVESTIGATIONS & OVERSIGHT  
U.S. HOUSE OF REPRESENTATIVES  
HEARING CHARTER**

***Transitioning the Environmental Measurements Laboratory (EML)  
to the Department of Homeland Security***

**Thursday, May 3, 2007  
10:00 a.m. to 1:30 p.m.  
2318 Rayburn House Office Building**

**Purpose**

The Environmental Measurements Laboratory (EML), located in New York City, was transferred from the Department of Energy to the Department of Homeland Security's Science & Technology Directorate in 2003, under Section 303 of the Homeland Security Act of 2002. The laboratory – established in 1947 – was ostensibly transferred because of its expertise in low level radioactive measurements, analysis and assessments and its ability to significantly contribute to the S&T Directorate's responsibilities as envisioned in Section 302 of the Homeland Security Act of 2002 to develop countermeasures to radiological and nuclear terrorist threats; conduct basic and applied research, development, demonstration, testing, and evaluation activities relevant to DHS; detect, prevent, protect against and respond to terrorist attacks; and to transfer relevant technologies or abilities to federal, state, local governments and private sector entities.

When Congress transferred this laboratory from DOE to DHS, there was a logical expectation that a lab which specialized in radiation detection and supported the work of state and local officials and first-responders would be a natural fit with an agency which was charged with protecting the country from radiological threats. Having a Federal radiation detection laboratory located in the heart of New York City, which after the 9/11 attack was clearly in the top tier of potential targets for terrorists, seemed like an important asset for DHS.

Yet since its transfer to DHS, the Environmental Measurements Laboratory has largely been left to flounder. Rather than exploiting and expanding the unique skills and capabilities of the laboratory that could have clearly contributed to some of DHS' most important work, DHS has terminated, transferred and curtailed key EML programs. Top management at DHS also spent an inordinate amount of time, energy and resources

planning for the lab's ultimate closure. By 2007, the DHS Science & Technology Directorate had stripped the lab of its radioisotope chemical analysis labs critical for the continuation of its radiochemistry Quality Assessment Program (QAP) praised by both state and federal participants as directly contributing to homeland security efforts. Other projects EML initiated with local first responders in New York City, including a network of roof-top radiation sensors, have been halted. Other programs have been started, stopped and then transferred. In one of DHS's most astounding decisions, it terminated the lab's entire global radiation monitoring network – in existence since 1963 – and halted plans to install a new EML built radiation monitor in China, near the North Korean border in October 2005. This occurred one year before the North Korean nuclear test.

Congress never intended for the lab's programs to be disbanded, or that the laboratory be closed. The detailed plans to close the lab, first initiated in 2005, were never signed by the Under Secretary of Science and Technology, Charles McQuery. Admiral Jay Cohen, who took over that post last August, has told the committee staff that he now intends to put the lab on a new path and anticipates making it a valued DHS asset.

In the 107<sup>th</sup> Congress, the Committee on Science played a key role in drafting the legislation that established the Department of Homeland Security, particularly in creating the S&T Directorate. As a result, the Subcommittee's oversight role regarding the S&T Directorate is particularly important. Up until now, the seemingly intentional actions by DHS to strip the Environmental Measurements Laboratory – a critical national asset – of its programs, projects and activities have occurred within the inner sanctum of the S&T Directorate without any explanation to Congress or the public of the rationale for these inexplicable actions. In fact, even as the S&T Directorate was drafting plans to close the laboratory and DHS-hired contractor Booz Allen Hamilton was writing up a "communications plan" on the "message" DHS was planning to disseminate to both Congress and the public about why the lab was being closed, the S&T Directorate was telling Congress that they expected the EML to "serve an enduring role" in supporting DHS.

The Subcommittee hearing will seek to obtain a fuller public disclosure of how and why DHS terminated many of the lab's programs, why the S&T Directorate was unable – or unwilling – to chart a new course for the Environmental Measurements Laboratory and who was responsible for undermining the success of the EML since it was transferred to DHS. The Subcommittee hearing will fully examine the issues that have led to the termination and transfer of some of the lab's programs that could have played a critical role in both homeland and national security-related issues. The conditions leading to the laboratory's current state need to be examined, resolved and prevented from occurring again. Although Admiral Cohen has recently pledged not to close the lab, it is important that the Subcommittee ensure that the S&T Directorate has a detailed strategic plan and clear vision for the lab that will ensure they fully utilize the EML in the future.

## **Background of the Environmental Measurements Laboratory**

The Environmental Measurements Laboratory – which has undergone several name changes since it was first established in 1947 as the Medical Division of the Atomic Energy Agency – moved into its current location in Manhattan in 1957. Within the Department of Energy the small laboratory moved from the Office of Energy Research to the Office of Environmental Management in 1997 to focus on environmental monitoring, decommissioning and decontamination efforts around the nation’s nuclear weapons complex. Unlike the much larger DOE laboratories, including Los Alamos, Lawrence Livermore and Pacific Northwest National Laboratory, the EML has always received much less notice, financial support and attention. To some degree, it was never able to compete with these other larger, better equipped, multi-purpose laboratories within the DOE complex. Still, the EML developed world renowned capabilities in low-level radiation measurements and has been praised by state and federal officials for their contribution to both homeland security and national security-related programs.

The lab’s scientists and engineers have designed and fabricated unique radiation detection instruments, played a major role in evaluating the impact of environmental contamination from nuclear weapons fallout and developed a global network of radiation sensors that performed a critical role in U.S. and international nuclear non-proliferation efforts. In the 1970s the EML established a radiochemistry Quality Assessment Program (QAP) that grew to include the participation of more than 150 labs, and they provided a support role for DOE’s Nuclear Emergency Search Teams, whose task is to locate and disable nuclear weapons or radiological dispersal devices in the U.S. and abroad.

But one walk down the lab’s hallways today and it is evident the lab has received only minimal upgrades since it moved to its current location five decades ago. **Its peak staff of about 120 employees also dropped by half by the time it was transferred to DHS in 2003.** The cost of maintaining the large facility in Manhattan has been significant. In addition, some employees who were nearing retirement had become stagnant in their positions. Yet, the Environmental Measurements Laboratory developed an unquestioned world renowned reputation for radiation analysis. Its non-proliferation and quality assurance programs, which began in the 1960s and 1970s and were still active when the lab moved to DHS, had no equals either in the federal government or commercial sector.

### **Quality Assessment Program (QAP)**

The Environmental Measurements Laboratory established the Quality Assessment Program (QAP) in 1976 to perform “quality assurance” or “performance evaluation” tests designed to assess the accuracy of radiological measurements reported by radiochemistry laboratories. Department of Energy contractor laboratories were required to participate in the program. But other non-DOE laboratories, including federal agencies, commercial laboratories and state public health labs from California, Washington, Wisconsin, Texas, Tennessee, Illinois, Georgia, Idaho, Kansas, New York and New Jersey, also participated, 150 laboratories in all. When EML was transferred to DHS, EML scientists attempted to sharpen the QAP’s focus on emergency response capabilities, rather than routine environmental analysis. But DHS terminated the program in 2004. Most disturbing is

that in interviews with Subcommittee staff Caroline Purdy, Former Acting Director of the Office of National Laboratories in the S&T Directorate, who directed that the program be closed, was completely unaware of what the Quality Assessment Program actually did or how it might play a role within DHS. “I don’t remember any meetings discussing QAP,” said Purdy. She said that QAP was an “old program” that had been around a long time and that her “general assumption was that the DOE National Labs would do this.” John Clarke, Deputy Director of the Office of National Laboratories, also clearly saw no value in the QAP or its relevance to homeland security issues and also seemed unclear on what the program actually did. His justification for seeking its closure was that it was another “self generating” task that EML had developed.

Ironically, the S&T Directorate began the shut down of QAP and EML’s chemistry laboratories at a time when DHS was standing up a new interagency organization dubbed the Integrated Consortium Laboratory Network or ICLN. Government officials from the Department of Energy, National Institutes of Standards and Technology and Environmental Protection Agency told Subcommittee staff that they believe EML’s Quality Assessment Program would have been a key asset and perfect fit in the newly formed ICLN organization to coordinate proficiency testing at radiochemistry labs.

The Environmental Measurements Laboratory’s QAP chemistry labs are now in the final stages of decommissioning. In the process the lab has donated or disposed of more than \$1.7 million worth of equipment. The Food and Drug Administration and U.S. Secret Service took some of the radiation samples and the EML donated \$6,000 of brand new flasks and beakers to Stuyvesant High School in New York City. Dr. Damon Chaky, a scientist at the Pratt Institute received two gamma radiation detectors valued at \$20,000 each.

### **Global Monitoring Program**

Since 1963, the Environmental Measurements Laboratory had developed, fabricated and maintained a global network of low-level radionuclide sensors. The EML monitoring system was the most extensive and comprehensive low-level radionuclide sampling network in the world, comprised of a Global Fallout Program, Surface Air Sampling Program (SASP) and Remote Atmospheric Measurements Program (RAMP). The network included more than 70 monitoring sites in the U.S. and abroad, including Antarctica, Australia, the Bahamas, Bolivia, Chile, China, France, Greenland, Panama, Singapore, South Africa, Turkmenistan, the United Kingdom, Uruguay and Venezuela. The network has been used extensively by scientists to validate global meteorological and atmospheric transport models. But the system also collected data that assisted U.S. and international nuclear non-proliferation efforts, helping to rapidly identify any new sources of radiological activities due to accidental releases or nuclear weapons tests.

In January 2002 EML established a monitoring station in Guiyang in southwest China and in April 2002 it established a second site at Mt. Waliguan. In August 2003, EML also installed a RAMP system in Ryori, Japan. The lab had plans to install a new

radiation detector at Long Feng Shan in China, near the North Korean border that would have been installed in early 2006. But DHS terminated the lab's entire global radiation monitoring program in October 2005, including its plans to install a new detector near the North Korean border. This was particularly unfortunate, since North Korea conducted a nuclear weapons test in October 2006. Although portions of the program were classified, the significance of the program to U.S. nuclear non-proliferation efforts would have appeared obvious to anyone who had looked.

The EML sent e-mails to the sites maintaining the radiation detectors and informed those involved that they should dispose of the EML radiation sensors in accordance with local laws. Much of the equipment was old and it would have been too expensive to pack them up and return them to EML. The new radiation sensor that EML had planned to install at Long Feng Shan, China, near the North Korean border was never fully assembled and pieces of that planned detector remain at EML today.

With the specialized skills that the lab's core group of scientists and engineers possessed and their ability to design, fabricate and manufacture unique radiation sensors and their history of developing and producing plans and protocols for measuring and identifying radioactive isotopes it is particularly disturbing that S&T Managers could not envision how this laboratory – based in the heart of Manhattan – could have contributed to DHS. Instead, the lab's newly proposed projects were rejected, its former programs were terminated and its ability to function at virtually any level was micromanaged to the extreme. No one, it seems, in the S&T Directorate had a clear understanding of what some of the lab's most impressive programs did or how they might play a role in homeland security. Instead, they were viewed as not being part of the "DHS mission" and were terminated. The leadership chasm that existed in the S&T Directorate was chilling.

In fact, it is not clear how the S&T Directorate expected EML to thrive, even function, within the Department of Homeland Security given the constraints that were placed on them. It's extraordinarily telling, for instance, that the lab had no computer access to the DHS Intranet until 2005, two years after EML transferred to DHS. Even then, EML was only provided with four computers that could access the DHS Intranet and one printer, despite the fact they had more than 40 employees. John Clarke also prevented DHS employees from attending conferences and routinely questioned their travel plans. Documents DHS provided to the Subcommittee show Clarke did this because of concerns over the laboratory's financial management. But even Marc Mandler, former Technical Director of the U.S. Coast Guard Research & Development Center, who was detailed to DHS for a short four month tour in 2004 and reviewed the lab's capabilities, along with Clarke, believed the financial microscope that was placed on EML was "very extreme," he said. "They could not even buy toilet paper," said Mandler, half-joking.

In the critical Mandler/Clarke review that was concluded in October 2004, Marc Mandler says he provided an honest assessment of what he encountered during his short tenure at DHS, but acknowledges that he did not speak to individuals outside of EML to get their perspective on the lab or work the lab had done for them. Mandler, who is well

respected, said he felt that many of the EML employees were steadfastly resistant to change and unable to tailor their work towards their new mission at the Department of Homeland Security. But he did believe the staff that was willing to move in this direction were technically proficient, could contribute to homeland security efforts and that the lab had strategic value because of its location in the midst of New York City. Mandler says he respected John Clarke, but also says that the way the DHS S&T Directorate managed the Environmental Measurements Laboratory had a lot to be desired. "It was micromanagement without direction," said Mandler.

## **Witnesses**

The Subcommittee hearing will use three separate panels to tell the story of the Environmental Measurements Laboratory and to explore and explain the systemic mismanagement that occurred on the part of the Science & Technology Directorate in supervising, managing and leading the laboratory.

**Panel 1** will be composed of individuals from local, state and federal government agencies that have utilized the services of EML as well as a former DHS official in the S&T Directorate who quit over the way, he believed, the laboratory was being mistreated. Two of these witnesses have had programs they relied on with the EML terminated by the Department of Homeland Security. **Mrs. Lynn Albin**, *Radiation Health Physicist, Office of Radiation Protection, Washington State Department of Health*, utilized EML's QAP for nearly two decades. She will address the significance this program had on preparing her agency for the DHS-led TOPOFF2 counterterrorism exercise in 2003. **Mr. Charles F. McBrearty, Jr.**, *Former Director of Materials Technology, Air Force Technical Applications Center, Patrick Air Force Base, Florida*, just retired last month from the Air Force. He had a relationship with EML for nearly three decades and took a trip to DHS Headquarters in D.C. to make the case that EML was a critical asset and that in his experience they were "the masters of the universe in terms of radiation measurements." Despite that, DHS terminated all of EML's work for the Air Force. **Assistant Commissioner Jonathan A. Duecker**, *New York Police Department, Counterterrorism Bureau*, will describe the work that EML has been performing for first responders in the New York region since 9.11. **Dr. Tony Fainberg**, *Former Program Manager, Radiological & Nuclear Countermeasures, Office of Research and Development, Science & Technology Directorate, Department of Homeland Security*, will describe how he believed many of EML's programs could have benefited DHS. Fainberg witnessed many of the lab's programs killed off by the S&T Directorate and he eventually quit when he concluded that the directorate was intent on closing the laboratory.

The sole witness for **Panel II** is **Dr. John F. Clarke**, *Deputy Director, Office of National Laboratories, Science & Technology Directorate, Department of Homeland Security*. Clarke is a Pacific Northwest National Laboratory employee detailed to the S&T Directorate, and is a key player in the ultimate degradation of the Environmental Measurements Laboratory's capabilities and programs.

**Panel III** will look ahead to the Environmental Measurements Laboratory's future. **Admiral Jay M. Cohen**, *Under Secretary for Science and Technology, Department of Homeland Security* and **Mr. Vayl Oxford**, *Director, Domestic Nuclear Detection Office, Department of Homeland Security* will both discuss what role they see for the lab moving forward.

## Conclusion

The history of the Environmental Measurements Laboratory – in the four years since it was transferred to the Department of Homeland Security – should serve as a case study of government mismanagement and incompetence. Once a valued critical asset, the lab has been stripped of some of its most successful and important programs and sorely mischaracterized by a small handful of officials in the S&T Directorate. John Clarke particularly served as a funnel through which information about EML flowed to many others within the S&T Directorate. His motivations may never be clear, but Clarke's mischaracterization of the Environmental Measurements Laboratory, the skills of its staff and the lab's programmatic capabilities are unmistakable. Subcommittee staff found that he has misconstrued conversations with both local first responders and non-DHS federal agencies about their stated positions regarding specific EML projects that Clarke eventually terminated. Even worse, Maureen McCarthy, Clarke's supervisor and the former Director of the Office of Research and Development (ORD) within the DHS S&T Directorate told Subcommittee staff that John Clarke had no "programmatic role" in the S&T Directorate. If he was involved in making programmatic decisions about the EML, said McCarthy – which he clearly and repeatedly was – this was outside of his set of responsibilities.

But McCarthy had been made aware of Clarke's propensity to overstep his lines of authority, particularly when it came to management of the Environmental Measurements Laboratory, by at least two DHS officials in 2005, including Tony Fainberg. Responsibility for reigning in the detrimental actions by John Clarke regarding EML clearly fell to her. While McCarthy says she spoke to Clarke about some of his actions, it clearly had little if any impact. Clarke managed to terminate EML's work for the Air Force, for example, even after those conversations. In fact, Tony Fainberg ended up quitting his position in the S&T Directorate partly because of the actions of John Clarke and partly because no one above Clarke was willing to prevent him from essentially destroying the programs, resources and morale at the Environmental Measurements Lab.

Admiral Cohen has told Subcommittee staff that he has no plans to close EML. He intends to maintain the lab's presence in New York City and to re-emphasize the lab's core mission towards the Testing & Evaluation (T&E) of equipment. This is a role the lab has taken on since 9.11 on an ad hoc basis for the New York and New Jersey first responder community in any event. Admiral Cohen sees EML becoming one of the premier testing and evaluation centers for DHS nationwide, he says. In addition, the Domestic Nuclear Detection Office (DNDO) intends to utilize about ten of the EML staff

in the Countermeasures Test Bed (CMTB) and other related efforts that focus on the detection and identification of radiological threat material in the New York area.

It is encouraging that after more than four years the S&T Directorate seems to finally have some direction for the Environmental Measurements Laboratory. Up until now the laboratory has been left rudderless without a paddle. Admiral Cohen has emphasized that he wants to maintain the intellectual capital of EML's employees. Unfortunately, many of the lab's cadre of scientists and engineers have already retired or resigned since the lab was transferred into DHS. When the lab was transferred to DHS they had 54 employees, 12 with PhD's and 18 with Master's degrees. Today the lab has 35 employees, 7 with PhD's and 11 with Master's degrees. Damage to the intellectual capital of the laboratory has already occurred, but Admiral Cohen can still help stem the flow.

The S&T Directorate – led by Admiral Cohen – now has an opportunity to clearly lead the lab into the future by providing them with clear guidance, renewed encouragement about their ability to contribute to the nation's security and by obtaining a much clearer understanding of the skills and abilities of the lab's remaining personnel and how they can be utilized to their full potential. The lab has been left to wither for too long, staff has fled and critical programs have been inexplicably terminated. Admiral Cohen has an opportunity to curtail the damage that has already been done and begin a positive path forward that will benefit the lab, its employees, DHS and the nation.